



# **Massachusetts Residential Solar Loan Program**

**FINAL DESIGN  
STAKEHOLDER PRESENTATION**

**October 16, 2014**

# Problem Statement and Opportunity

- MA residential solar market has boomed over past 4 years and continued SREC-II program support will maintain this growth.
- Solar financing is essential to maintain market progress.
  - PPA/ Leases are one means of financing which currently serves a majority of the MA residential solar market.
  - For a direct ownership alternative, loans are required. Home equity loans currently used for solar are not ideal
- Direct ownership of solar by MA homeowners provides greater lifecycle benefits to homeowner and local economy.
- Convenient access to loan products from local lenders will further this economic opportunity.

# Program Goals

- The Solar Loan program will establish a loan product that
  - is readily accessible for installers, customers and lenders
  - is competitive with alternatives (e.g. PPA/lease, cash, etc..) from customer perspective
  - is of interest to lenders both on near term, and long term basis
  - helps small installers secure attractive financing for their customers
  - creates an affordable solution and lender support to serve moderate income homeowners and small participants in community shared ownership.
- The Solar Loan program will help transform the market, but incorporates an exit strategy so as program support is reduced and eliminated, a sustainable market is maintained.

# Relation to Mass Save Heat Loan

- 50 lenders statewide are engaged with successful Heat Loan program that provides support for homeowner loans for energy efficiency and boiler replacements.
- DOER anticipates Heat Loan lenders will particularly recognize the value of the Solar Loan credit enhancement, the successful performance of Heat Loans, and opportunity to expand customer base.
- DOER will seek to coordinate two programs with marketing, website linkages, and compatible forms and procedures.
- Programs are distinct in funding source, loan terms, technical/project eligibility, and administration.

# Borrower Eligibility

- Homeowner – installing solar on primary or secondary residence, including owner-occupants of residences with up to three units. PV capacity additions to existing systems are eligible. Homeowner must demonstrate by self-attestation that they have had a Mass Save energy audit in the past 2 years, or have one scheduled.
- Net metering off-taker in Community Shared Solar (CSS), as defined in SREC-II, or other net metering projects that meets the following criteria:
  - Net metering off-taker of no more than 25 kW with ownership position in the solar project
  - Limited to direct ownership or ownership through an LLC, cooperative, condo association, or other collaboration wherein all owners reside in the same distribution load zone.
  - Project must meet loan program technical eligibility criteria
- Commonwealth Solar Rebate II – borrower may NOT receive a Commonwealth Solar II rebate for the project. The MassCEC rebate program may be still phasing out as the solar loan program becomes available. If so, during this transition period, customers must choose in which program they wish to participate.

# Solar PV System – Technical Eligibility\*

- Solar project must be eligible for MA Solar Carve-Out II program, or successor.
- Minimum design and estimated production requirements
  - Project designed so that estimated annual energy output is at least 70% of the default optimal output for a fixed PV project of the same capacity
- Installation requirements
  - Electrical work performed by MA licensed electrician
  - Project installed according to manufacturer's instructions and in compliance with all applicable permits, interconnection agreements, codes and standards

\*Adapted from Commonwealth Solar II Minimum Technical Requirements (from MassCEC)

# Solar PV System – Technical Eligibility (cont.)

- PV project and equipment warranty requirements
  - Installer warranty – at least 5 year labor warranty
  - Manufacturer warranty – at least 20 year production warranty on panels, and 10 year warranty on inverter
  - Roof condition – installer attest that roof is in satisfactory shape and meets standards for solar installations
- Additional solar PV equipment requirements
  - New panels and equipment
  - UL listed
  - Solar panels on California Energy Commission (or successor) list of eligible renewable energy equipment
- Electricity production meter requirements
  - Data Acquisition System and automatic generation reporting

# Qualification of Installers

- Installers expedited by MassCEC in a manner consistent with the Commonwealth Solar II Rebate program
  - Installers already expedited in Commonwealth Solar II immediately qualifies installer for expedition in solar loan program
- Non-expedited or new-entry installers will be subject to inspection of first two projects
  - Successful inspection will result in expedited status for installer going forward
  - Inspection contracted by MassCEC



# Loan Parameters

- Unsecured loan
- Borrower must meet underwriting criteria of lender.
- Maximum loan available of at least \$35,000. Minimum loan of \$3,000.
- Loan tenor of 10 years must be offered; other tenors can also be offered. Tenor choice at borrower's discretion.
- Interest rate maximum of 6% before interest rate buy down (maximum pegged to WSJ prime lending rate + 2.75%)
- No penalties for early payments or payoff
- Loan re-amortization, or other mechanism approved by DOER, to reduce loan payments due to submission of federal tax credit or other principal pay-down, available at no cost once in the first 18 months.
- 10% of loan disbursed upon closing; remaining disbursement plan to be established by lender/borrower. Two-party check (borrower and installer) disbursement.
- Transferability (at discretion of Lender that new homeowner meets credit requirements)
- Loan fees optional, but not to exceed \$500 per loan
- UCC-1 filing for loan optional, but should be considered by lenders.
- Loan must not have recourse to credit enhancement by any other state or government program

# Credit Enhancement Provisions

Eligible Loan Terms	Interest Rate Buy-Down	Loan Loss Reserve	Moderate Income Loan Support
<p>Lender must offer tenor of 10 years, other tenors may also be offered. All tenors get same credit enhancement.</p> <p>Maximum Interest Rate 6% (pegged to WSJ Prime + 2.75%).</p>	<p><u>For All Borrowers</u></p> <p>3% IRB available until \$5M of IRB expended.</p> <p>DOER intends to reduce IRB for subsequent funding blocks based on program performance.</p> <p>DOER will provide transparency as to IRB spending and availability.</p>	<p><u>680 &lt; FICO &lt; 720</u></p> <p>10% LLR for 80% remaining principal</p> <p><u>FICO ≤ 680</u></p> <p>20% LLR for 90% remaining principal</p> <p>Separate LLR account established for each lender. Account will be pre-funded with \$50,000.</p>	<p><u>For Borrowers with:</u></p> <p><u>≤ 120% and &gt; 100% of MA median household income</u> \$0.80/watt, up to 10 kW</p> <p><u>≤ 100% of MA median household income</u> \$1.20/watt, up to 10 kW</p> <p>Loan support down-payment to lender at time of IRB payment.</p> <p>IRB based on full loan principal.</p> <p>subject to change due to loan volume and allocated funds</p>

# Borrower Examples

Project Size 5 kW  
Cost/Loan Principal \$22,500  
Lender Interest Rate 6%

Borrower	Adjusted Loan Principal (after Moderate Income down-payment)	LLR Funding	IRB (3%)	Moderate Income Loan Support
FICO = 700; and Household Income > 120% median	\$22,500	\$2,250	\$2,128	\$0
FICO = 640; and Household Income > 120% median	\$22,500	\$4,500	\$2,128	\$0
FICO = 700; and Household Income =110% median	\$18,500	\$2,250	\$2,128	\$4,000

# Model Allocation of Program Funds

- DOER has allocated \$30 million to support the credit enhancement and early mover incentives to encourage consumer solar loans.
- Modeling, with conservative assumptions, demonstrates that the DOER funds may support around \$143 million of loans, a leverage factor of 5 times.

IRB Assumption	Loan Volume	IRB Cost	LLR Cost	Moderate Income Cost	TOTAL SUBSIDY	TOTAL LOANS
IRB Block 1 - 3%	2537	\$5,000,000	\$3,710,987	\$4,059,883	\$12,770,870	\$57,092,109
*IRB Block 2 - 2%	2252	\$3,000,000	\$3,293,177	\$3,602,792	\$9,895,969	\$50,664,265
*IRB Block 3 - 1%	1561	\$1,053,225	\$2,282,663	\$2,497,272	\$5,833,160	\$35,117,894
<b>Totals</b>	<b>6350</b>	<b>\$9,053,225</b>	<b>\$9,286,827</b>	<b>\$10,159,948</b>	<b>\$28,500,000</b>	<b>\$142,874,268</b>
* only Block 1 IRB of 3% is confirmed					<b>Leverage</b>	<b>5.0</b>

## Modeling Assumptions:

Loan Principal of \$22,500. Loan Program administrative costs of \$1,500,000.

IRB Cost with 70% of customers taking 10 year tenor and 30% taking 7 year tenor.

LLR Cost with 50% of customers with FICO > 720, 35% between 680-720, 15% < 680.

Loan Support with 65% customers above 120% median income, 25% between 100%-120% median income, and 10% below 100% median income (assumes 5 kW systems).

# Role of Central Administrator and Fiscal Agent

DOER will procure a Central Administrator for the solar loan program that will provide the following services:

- Qualify and enroll lenders and loan products that meet program criteria to be eligible for the credit enhancement
- Provide web-based Technical Eligibility Application and Approval
- Income verification for Moderate Income Loan Support (subcontractor)
- Maintain Loan Program website with public information and listing of qualified installers and lenders and loan offerings
- Register each loan and directly, or through contracted Fiscal Agent, disburse IRB and Moderate Income Loan Support, and administer LLR accounts
- Maintain right to inspect lender records to assure accurate information is being reported on loan amounts and FICO scores.
- Provide quarterly DOER and public reports on loan program activity and recommendations for improvement

# Primary Program Documents

- Financing Program - Terms and Conditions
- Lender Agreement Form
- PV Technical Eligibility Application and Approval Form
- Optional UCC-1 Filing Informational Document – for Lenders consideration
- Program Design Document (5-10 page program description for stakeholders)
- Public Outreach Brochure (1-2 page document for public and program participants)

# Program Launch

## Next Steps and Anticipated Timeframe

- Announce Final Design Presentation and review comments (October 2014)
- Prepare/release RFP for Central Administrator and Financial Agent (late October 2014)
- Prepare comprehensive set of documentation and forms (Oct/Nov 2014)
- Contract Central Administrator and Fiscal Agent (December 2014)
- Construct program website content and functionalities (early 2015)
- Solicit Lenders to Program (November 2014 and ongoing)
- Outreach Program to Installers (November 2014 and on-going)
- Launch Program (early 2015)

# Comments on Final Design

DOER welcomes comments on the Final Design presentation. As we have already completed two rounds of stakeholder engagement to arrive at this final design, we seek specific comment on design elements more than general comments on the overall design structures.

Please provide comments by email no later than **5:00pm on Thursday, October 23**. Comments should be emailed to [emma.krause@state.ma.us](mailto:emma.krause@state.ma.us). Please use Subject Line “MA Solar Loan Final Design Comments”.